

[WHITE LIGHT LED]

Abstract

A white light LED is provided. The white light LED includes an exciting light source and a fluorescent powder, wherein the wavelength of the light emitting from the exciting light source is in a range of about 250nm to about 490nm. The fluorescent powder is disposed around the exciting light source to receive the light emitting from the exciting light source. Furthermore, the material of the fluorescent powder includes $(\text{Tb}_{3-x-y}\text{Ce}_x\text{Re}_y)\text{Al}_5\text{O}_{12}$, $(\text{Me}_{1-x-y}\text{Eu}_x\text{Re}_y)_3\text{SiO}_5$, $\text{YBO}_3:\text{Ce}^{3+}$, $\text{YBO}_3:\text{Tb}^{3+}$, $\text{SrGa}_2\text{O}_4:\text{Eu}^{2+}$, $\text{SrAl}_2\text{O}_4:\text{Eu}^{2+}$, $(\text{Ba,Sr})\text{MgAl}_{10}\text{O}_{17}:\text{Eu}^{2+},\text{Mn}^{2+}$, $\text{Y}_2\text{O}_3:\text{Eu}^{3+}$, $\text{Y}_2\text{O}_3:\text{Bi}^{3+}$, $(\text{Y,Gd})_2\text{O}_3:\text{Eu}^{3+}$, $(\text{Y,Gd})_2\text{O}_3:\text{Bi}^{3+}$, $\text{Y}_2\text{O}_2\text{S}:\text{Eu}^{3+}$, $\text{Y}_2\text{O}_2\text{S}:\text{Bi}^{3+}$, $(\text{Me}_{1-x}\text{Eu}_x)\text{ReS}$, $6\text{MgO},\text{As}_2\text{O}_5:\text{Mn}$, $\text{Mg}_3\text{SiO}_4:\text{Mn}$, $\text{BaMgAl}_{10}\text{O}_{17}:\text{Eu}^{2+}$ and $(\text{Ca,Sr,Ba})_5(\text{PO}_4)_3\text{Cl}:\text{Eu}^{2+},\text{Gd}^{3+}$.. The white light LED of the invention provides high luminous efficiency and excellent color rendering index.